

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/012692

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages _____ as originally filed/furnished
- pages* 1-7 received by this Authority on 07.10.2005 with letter of 26.09.2005
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-6 received by this Authority on 07.10.2005 with letter of 26.09.2005
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/1 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-6</u>	YES
		Claims <u></u>	NO
	Inventive step (IS)	Claims <u>1-6</u>	YES
		Claims <u></u>	NO
	Industrial applicability (IA)	Claims <u>1-6</u>	YES
		Claims <u></u>	NO
2.	Citations and explanations (Rule 70.7)		
1	<p>The present report refers to the following document:</p> <p>D1: DE 101 04 860 C1 (DAIMLER CHRYSLER AG) 7 February 2002 (2002-02-07).</p>		
2	<p>INDEPENDENT CLAIM 1</p> <p>The subject matter of claim 1 is not clear (PCT Article 6).</p> <p>To define the forming process more clearly, the feature "using fluidic high pressure" was included in the preamble of claim 1. However, it is not immediately clear that this feature concerns the forming process. The expression could just as readily relate to the feature wherein the surface of the sheet metal is provided with structural elements, that is to say, the production of the structural elements by fluidic high pressure; however, this is not correct and also not disclosed in the original application (PCT Article 19(2)).</p>		

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

A further unclear point results from the expression "of the hollow profile" in the characterizing part of claim 1, since the hollow profile does not yet exist when the metal sheet is introduced into the deformation tool; it will be produced by the deformation process.

Consequently, the report is based on the following wording of claim 1:

"... wherein before the deformation of the metal sheet the surface of the metal sheet ..., ..., characterized in that when the **at least one metal sheet** is introduced into the deformation tool..."

Document D1, which is considered the closest prior art, discloses (the references between parentheses relate to D1):

methods for producing a hollow profile (title), which is shaped from at least one (two) metal sheets (sheets 2 and 3) by fluidic high pressure (internal high-pressure forming), wherein prior to the deformation of the metal sheet (3) the surface of the metal sheet is provided with structural elements (15) in the form of depressed and/or raised areas (column 2, lines 47-54), the number, dimensions and outlines of the structural elements being chosen in such a way that during expansion the maximum change in

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	<p>circumference permitted for the component is complied with and the maximum deformation is increased (column 2, lines 58-64, and column 1, lines 44-57).</p> <p>The subject matter of claim 1 therefore differs from document D1 in that,</p> <p>when the at least one metal sheet is introduced into the deformation tool the structural elements in part form hollow spaces with the inside of the deformation tool, which spaces receive a lubricant.</p> <p>Owing to the fact that the structural elements enclose the hollow spaces already before the start of the deformation process, the lubricant cannot escape during deformation and is therefore reliably present at the most critical point, when the marginal areas of the structural elements begin to flow along the side of the deformation tool. This reduces the risk of tears in the material resulting from excessive friction between the metal sheet and the deformation tool.</p> <p>Document D1 does not disclose in what manner lubricant is applied. However, even if the lubricant were to be introduced into the structural elements, the fact remains that at the start of the deformation process the structural elements do not contact the side of the tool, and hence during deformation the lubricant would be</p>

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	<p>able to flow to other parts of the metal sheet.</p> <p>The subject matter of the clarified claim 1 is novel and inventive (PCT Article 33(2) and (3)).</p> <p>3 DEPENDENT CLAIMS 2 TO 6</p> <p>Claims 2 to 6 disclose further embodiments of the method according to claim 1. Consequently, their subject matter is likewise novel and inventive (PCT Article 33(2) and (3)).</p>

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Box No. VIII **Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

See Box V, point 2.